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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/633,774	08/04/2003	Kent Bryant Pfeifer	DN2003094	5118
27280	7590	04/06/2005	EXAMINER	
THE GOODYEAR TIRE & RUBBER COMPANY INTELLECTUAL PROPERTY DEPARTMENT 823 1144 EAST MARKET STREET AKRON, OH 44316-0001			ALLEN, ANDRE J	
			ART UNIT	PAPER NUMBER
			2855	

DATE MAILED: 04/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/633,774

Applicant(s)

PFEIFER ET AL.

Examiner

Andre J. Allen

Art Unit

2855

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-15 is/are allowed.
- 6) ☒ Claim(s) 1-3, 16, 19 and 20 is/are rejected.
- 7) ☒ Claim(s) 4-9, 17 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12-14-04, 8-4-03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-3, 16, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scherr et al (US 6003378) in view of Cullen (US 4454440).

Regarding claims 1 and 16 Scherr et al teaches a surface acoustical wave conductive body 1 having an input transducer 3 disposed to transmit a directional acoustical wave across at least a surface portion of the body 1; at least one reflection transducer (col. 2 line 53) disposed to receive and reflect the acoustical wave back as a reflected signal (col. 2 lines 53-65); a pressure transducer 2

disposed adjacent to the surface acoustical wave conducting body, the pressure transducer comprising a flexible conductive membrane 2 (col. 2 lines 36-39); and the membrane 2 deflecting (col. 2 lines 64-66) responsive to a predetermined external pressure level to contact the reflection transducer and modulate the signal reflected by the reflection transducer (col. 2 lines 50-68)(col. 3 lines 19-40).

Scherr et al does not teach a cavity sealed by the membrane at a preset reference pressure. Cullen teaches a surface acoustic wave (SAW) pressure sensor comprising a cavity 22 sealed by the membrane at a preset reference pressure (col. 8 lines 8-24). It would have been obvious to a person having ordinary skill in the art of SAW pressure sensors at the time the invention was made to modify the device taught by Scherr et al with a seal cavity as taught by Cullen for the purpose of providing an encapsulated structure for maintaining a saw sensor over extended temperature ranges of operation and isolating the sensor from induced thermal strain resulting from temperature cycling (Cullen col. 2 lines 16-24)

Regarding claim 2 Scherr et al teaches a plurality of conductive fingers 4 5 6 8 disposed serially along the surface portion of the conductive body (fig. 1), the membrane 2 deflecting responsive to the external pressure level to establish electrical contact with at least one conductive finger to modulate the signal reflected by the one conductive finger (fig. 1).

Regarding claim 3 Scherr et al teaches the modulated signal

from the one conductive finger identifies the pressure sensor (col. 3 lines 20-34).

Regarding claims 19 and 20 Scherr et al teaches a sensor body 1 having a conductive contact region (col. 2 line 34) extending between the reflection transducer 4 5 6 and the membrane 2 in a deflected condition (fig. 1) and transmitting an input signal to the sensor body for initiating the transmission of the acoustical wave (col. 2 lines 50-60) and receiving the modulated reflected signal from the reflection transducer (col. 3 line 5-18)

Allowable Subject Matter

2. Claims 4-9 and 17-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Claims 4,5,17 and 18 are deemed to be a distinct and unobvious improvement over the cited prior art the claims comprise a plurality of conductive fingers disposed serially along the surface portion of the conductive body, the membrane deflecting responsive to the external pressure level to establish electrical contact with at least one conductive finger (selectively) to modulate the signal reflected by the one conductive finger and the reflection transducer comprises a plurality of conductive fingers deployed along the conductive body,

at least one conductive finger switching between an electrically floating state and an electrically grounded state through electrical contact with the conductive membrane.

3. Claims 10-15 are allowed.

The following is an examiner's statement of reasons for allowance:

Claims 10-15 are deemed to be a distinct and unobvious improvement over the cited prior art the claims comprise a reflection transducer comprises a plurality of conductive fingers deployed along a conductive body, at least one conductive finger switching between an electrically floating state and an electrically grounded state through electrical contact with the conductive membrane.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 4994798, 2002/0078757, 2004/0246076, 6571628, 6777855, 6810750 all teach reflective saw pressure sensors.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andre J. Allen whose telephone number is 571-272-2174. The examiner can normally be reached on mon-fri 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on 571-272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

André Allen
Patent Examiner
Art Unit 2855


EDWARD LEFKOWITZ
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